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NEW SOVIET TELEVISION TUBES

M. Konstantinov

In the near future television sets will be manufactured with tubes 230 millimeters (23LK1B) and 300 millimeters (30LK1B) in diameter for standard 625-line scanning with standard deflection and beam focusing systems.

The tube will be spherical and will have a white or bluish luminescent screen. The number of blemishes on the screen, the diameters of which are seldom greater than 0.5 millimeters, is reduced to a minimum, and, in practice, the blemishes do not show up in the picture.

An ionic spot, which reduces the total impression of the picture received appears only toward the end of the tube's life and then it has no real effect on the picture.

According to factory data, the life of the tube is 500 hours, but in practice the majority of the tubes last over 1,000 hours under normal operating conditions. In this case the ionic spot amounts to about 80 percent of the brightness of the peripheral part of the screen.

Both tubes have many electrical parameters in common (see table below); this permits changing from one type to the other without any special difficulties. The exception is the plate voltage -- 8 kilovolts for the 23LK1B and 10 kilovolts for the 30LK1B. The latter also operates satisfactorily on 9 kilovolts.

Thorough and long-term tests on the performance of these tubes showed that all the tubes tested had a high degree of contrast which is usually reduced due to the low insulation resistance of the cathode-modulator.

The insulation resistance of the cathode-modulator in these tubes amounts to more than 50 megohms, and in individual cases reaches 100 megohms.

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The main dimensions of both tubes differ only in length and in the cone section. (23LK1B: l-395 millimeters, d-210 millimeters; 30LK1B: l-460 millimeters, d-270 millimeters). The tubular sections are of the same dimensions, 35 millimeters in diameter. The dimensions and plan of the bases are identical, which facilitates changing from one to the other.

No of Parameter	Parameters	Unit	23LK1B	30LK1B
1	Heater voltage	V	6.3	6.3
2	Heater current	Amp	0.6	0.6
3	Operating plate voltage	KV	8	10
4	Max plate voltage	KV	10	12
5	Blanking voltage	V	50-75	50-75
6	Brightness	"Apostilb"	100	100
7	Max beam current	Microamp	100	100
8.	Persistence	Sec	0.04	0.04
9	Resolving Power:			
	In center	Lines	625	625
	In corners	Lines	350	350
10	Dimensions of raster	Mm	135 X 180	180 X 240

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